Work Order ID 122308 Monday, July 14, 2014 1:55:36 PM			*122	2308*		Page 1				
Item ID: D3463- Revision ID: Item Name: Step Start Date: 7/14/14 Required Date: 7/14/14	Start Qty: 4.00) *4* \~ *4*	Accept	*N900 Cust Item Customer:		100	ገ* ፡	Setup Star	17	S1* S2*
	ss Plan: ML5	Date: 1407-15	Tooling: _ SPC (Y/N):		ate:		F	Run Star Sto	" []	R1* R2*
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr	,,,	.*		•				-	· · · · · · · · · · · · · · · · · · ·
D3463	Rev B									
*1 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	FLOW WATER JET Memo 1-Cut as per Deburr if nea	Dwg D3463 Dwg Rev:_ cessary	0.00 3 0.00 Prog Rev: 3	2-			12	9		23 14-09-28
*110 * 1	QC2- Inspect parts off m	achine FAI/FAIB	0.00				12		·	DAS 23 9-89 14-09-76
120 *1 20*	QC8- Inspect parts - seco	ond check	0.00				(12)	•		DAS 38 9-89_/Y-9-29

Quality Control

DQA:			_ Date:						_					TRAC"
						WORK ORDER NON-	-CC	ONFO	RMANCE / UP				_	AEROSPACE
QA Closed:			Date:							W	ork Order up	date only		
Work Orde	· ·					DISPOSITION				AGAINST D	EPARTMENT	/PROCESS		
WOIK OIG						Rework			Skid-tube	Crosstube	7	Water Jet		Engineering
Part N	lo.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.		Quality
	•					Use-as-is		Therr	noforming	Finishing	Rec/Sto	e/Packaging		Other
NCR N	10.		J.	· · · · · · · · · · · · · · · · · · ·		Suspected Unapproved			Large Fab	Composite]	Supplier		
Root	-				Desc	ription of work order update	٢	nitial	Acti	on	Sign &			
Cause		Date	Step	Qty	0000	or non-conformance		ief Eng			Date	Verification	,	QC Inspector
Design			J OLEP	۷.,										
Doc/Data	\dashv													
Equip/Tooling													Ì	
Handling/Pre														
Material														
Operator														
Offset/Setup														
Process														
Supplier														
Training				,										
Transport					1									
Unapproved														
۸,	-						FA	ULT CA	TEGORY					
Landi	ng C	1			_	General		1	_	_	7	. г	1	- <i>1</i> -
		Bending			<u> </u>	Bend	<u> </u>	1	Program	<u> </u>	Outside Dim	- I		Pressure/Forced
,		Centre No	ot Concer	ntric	-	BOM/Route	_	Grain		-	Over/Under			Set-up
		Cracks			\vdash	Broken/Damage/Defect	<u> </u>	Hardwa			Part Incorred	F		Temperature/Cure Weld
		Crimp/Ki	nk/Ripple	/Wave	<u> </u>	Burrs	<u> </u>		ion Incomplete/Un	· —	Part Lost/Mi	ssing	_	
	_	Cuffs				Contamination	\vdash	4	tions Incomplete/U	nciear	Part Moved Positioned V	Vrong		Wrong Stock Pulled
		Crushing			·	Countersink	\vdash	1	gned/off center	}	Positioned v	· .		Other
		Heat Trea		T., b -	-	Cut Too Short	\vdash	Mislabe		<u> </u>	Trower ross/	Juige [Other
	-	Inspectio	•	lube	\vdash	Drawing		Misrea Off-set						
	<u> </u>	Marks/Ch			 	Drill Holes Finish	\vdash	4	Calibration		<u> </u>			<u> </u>
	\vdash	Turning S	equence vist in Tub	.	\vdash	Fit/Function	\vdash	4	Sequence		-			
I	ı	į vvave/ i W	vist III IUL	70	- 1	programenon	1	Journ	Jequence					

Work Ordo Monday, July 14				*122	2308*							Page 2	2
Item ID: Revision ID: Item Name:	D3463-3 Step			Accept	*N900		100)*	Setup	Start Stop	171	S1* S2*	
Start Date:	7/14/14	Start Qty: 4.00	*4*		Cust Item I	D:							
Required Date: Reference:	//14/14	Req'd Qty: 4.00	*4*		Customer:							. -	
Approvals:	Process Pla	an:	Date:	Tooling:	Da	ate:]	Run	Start	^I <i>V</i> I	R1*	
	QC:		Date:	_ SPC (Y/N):	Da	ate:				Stop	*N	R2*	
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Rejo Qty		Reject Number	Insp. Stamp	
130		Small Fab		0.00			DAS	ia				UL	ull.
120 Small Fab		Memo		0.00			30 9-89	12					
Small Fab		1-Form Dim Dwg D3463		sing DT3463-3T12-Debu	rr3-Form as								
140		QC5- Inspect part compl	eteness to step on W/O	0.00				12				DAS 38 9-89	
*14 0 *		Memo		0.00				10	_			14/	11/10
Quality Control												/ /	11/11

150

Identify as per dwg & Stock Location: WH COL

0.00

150 Packaging

Memo

0.00

*****STOCK IN LARGE FAB***** Packaging

DQA:			. Date:						_					TRAGC"
						WORK ORDER NON	-CC	ONFO	RMANCE / UPD		1.0.1			AEROSPACE
QA Closed:			Date:							W	ork Order up	date only		
Work Orde	or.					DISPOSITION				AGAINST DE	PARTMENT	PROCESS		
WOIR Old	-'' -					Rework			Skid-tube (Crosstube]	Water Jet		Engineering
Part N	10.					Scrap			├ ───	Small Fab	Pro	d. Eng. Coor.		Quality
	-					Use-as-is		Thern	noforming	Finishing	Rec/Stor	e/Packaging		Other
NCR N	۰ ا					Suspected Unapproved			Large Fab C	Composite]	Supplier		
Root	T				Desc	ription of work order update		nitial	Action	1	Sign &		Ī	
Cause	- 1	Date	Step	Qty		or non-conformance	l	ief Eng	Descripti		Date	Verification	n	QC Inspector
Design				3.7		100			<u>'</u>					-
Doc/Data														
Equip/Tooling														
Handling/Pre			,								:			
Material														
Operator														
Offset/Setup														
Process														
Supplier														
Training									:		:			
Transport														
Unapproved		·-	<u> </u>	<u> </u>			<u> </u>		<u> </u>					
							FAI	ULT CAT	TEGORY					
Landi						General		1			1			- 1-
	-	Bending			<u> </u>	Bend	<u> </u>	1 '	Program	ļ	Outside Dim		-	Pressure/Forced
	-	Centre No	ot Concer	ntric	<u> </u>	BOM/Route	<u> </u>	Grain			Over/Under		\blacksquare	Set-up
	ш	Cracks			_	Broken/Damage/Defect		Hardwa		1:6	Part Incorred		-	Temperature/Cure
	-	Crimp/Kir	nk/Ripple	/Wave		Burrs		1	ion Incomplete/Unqua		Part Lost/Mi	ssing	-	Weld
		Cuffs			-	Contamination	<u> </u>	4	tions Incomplete/Uncl	lear	Part Moved	(Ш	Wrong Stock Pulled
		Crushing			<u> </u>	Countersink	\vdash	4	gned/off center	ļ	Positioned W	_		Othor
		Heat Trea			<u> </u>	Cut Too Short	\vdash	Mislabe		L.	Power Loss/	ourge		Other
	_	Inspectio	-	Tube		Drawing	<u> </u>	Misread						
	\vdash	Marks/Ch				Drill Holes	—	Off-set						
	$\vdash \vdash$	Turning S	=			Finish	<u> </u>	-	Calibration					
		Wave/Tw	ist in Tub	oe -	l	Fit/Function	1	Out of S	Sequence					

Work Ord Monday, July				*122	2308*							Pag	e 3
Item ID: Revision ID: Item Name:	D3463-3 Step			Accept	*N900	04 0	1100)*	Setup	Start Stop	·· 1 VI	S1*	
Start Date: Required Date Reference:	7/14/14 e: 7/14/14	Start Qty: 4.00 Req'd Qty: 4.00	*4* *4*		Cust Item I Customer:	D :	_		.	St and			
Approvals:	Process P	Plan:	Date:	Tooling: SPC (Y/N):		ate: ate:			Run	Start Stop	^ \ <u>\</u>	R1* R2*	
Sequence ID/ Work Center 160 *1 An* QC Quality Control	ID	Operation Description QC21- Final Inspection Memo	- Work Order Release	Set Up/ Run Hours 0.00	Tool ID	Tool#	Plan Code	Accept Qty	Rej Qty		Reject Number	Insp. Stamp 2	4

DQA:			Date:						_					TRAC"
						WORK ORDER NON-	-CC	ONFO	RMANCE / UP					AEROSPACE
QA Closed:			Date:							V	ork Order up	date only		
Work Orde	· ·					DISPOSITION				AGAINST D	EPARTMENT	PROCESS		
WOIK OIGE	:					Rework			Skid-tube	Crosstube	٦	Water Jet		Engineering
Part N	۱o. ِ					Scrap			Machining	Small Fab		d. Eng. Coor.		Quality
NCR N	١٥.		·			Use-as-is Suspected Unapproved		Thern	noforming Large Fab	Finishing Composite	Rec/Stor	e/Packaging Supplier		Other
Root					Desc	ription of work order update	١	nitial	Actio	on	Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descrip	otion	Date	Verificatio	n	QC Inspector
Design														
Doc/Data														
Equip/Tooling														
Handling/Pre														
Material														
Operator														
Offset/Setup									:					
Process														
Supplier									•					
Training														
Transport														
Unapproved			<u> </u>											
				· · · · ·			FAI	ULI CA	TEGORY					
Landi	ng (1			г	General		le - 1: - 70		<u> </u>	Outside Dim	anaiana		Pressure/Forced
		Bending			-	Bend		•	Program		⊣			Set-up
		Centre No	ot Concer	ntric	-	BOM/Route	\vdash	Grain		-	Over/Under Part Incorred		-	Temperature/Cure
		Cracks	1./5: 1	h	-	Broken/Damage/Defect	\vdash	Hardwa		alified	Part Incorrec		-	Weld
	⊢	Crimp/Kii	пк/кірріе	/wave		Burrs	⊢	1	ion Incomplete/Unc	 	Part Moved	22111B	-	Wrong Stock Pulled
		Cuffs			-	Countamination	-	i .	tions Incomplete/Ur gned/off center	Iclear	Positioned V	Vrong	لــــا	Wiong Stock Fulled
	-	Crushing			-	Countersink		Mislabe	•	F	Power Loss/			Other
	<u> </u>	Heat Trea		Tubo		Cut Too Short	-	Misread		i_	Trower ross/.	عمرود	Щ	Other
		Inspectio	•	rube	\vdash	Drawing Drill Holes	-	Off-set						
		Marks/Ch			-	=	-	4	Calibration		·			
	<u> </u>	Turning S			\vdash	Finish Fit /Function	\vdash	4						
	1	[wave/Iw	vist in Tub	e e		Fit/Function		Lour or :	Sequence					

Page 1

Work Order ID: 122308

122308

Parent Item:

D3463-3

D3463-3

Parent Item Name: Step

Start Date: 7/14/14

Required Date: 7/14/14

Start Qty: 4.00

Required Oty: 4.00

Comments:

IPP REV. A 05.11.18 NEW ISSUE EC

IPP Rev:B

Now on Waterjet 056-08-15 JLM

Component Item ID/	
Item Name	

Replacement Item ID

Mfg/ Purch

Primary Bin Item Location Last Location

Route Seq ID Unit of Measure

sf

Qty on Hand

Qty per Kit Total Qty

Qty Issued

Date Status Issued

DAS

M304S16GA

Purchased

No

100

660.3570

0.243

**

129449

23

M304S16GA

304/316 Sheet .063

Location		Loc Qty	Loc Code	
MAT020		370.357		
	M127821	71.317		
	M129192	14.54		
	M129449	284.5		
TPI		290		
	M129545	290		

DQA:			Date:											TRACC"
			D-1-			WORK ORDER NON	-CC	ONFO	RMANCE / UP		ant Ondan	data anlu - F		AEROSPACE
QA Closed:			Date:	···						VV	ork Order up	date only		·····
Work Orde	۰r،					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
Work Orac				,	_	Rework]		Skid-tube	Crosstube]	Water Jet	\neg	Engineering
Part N	10.					Scrap			Machining	Small Fab	Pro	d. Eng. Coor.		Quality
		-				Use-as-is		Thern	noforming	Finishing	Rec/Sto	e/Packaging	┙	Other
NCR N	lo.		···		_	Suspected Unapproved			Large Fab	Composite	_	Supplier		
Root					Desci	ription of work order update		nitial	Acti	ion	Sign &		Ī	
Cause 🗥		Date	Step	Qty		or non-conformance	Ch	ief Eng	Descri	iption	Date	Verification	_	QC Inspector
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Material													i	
Operator														
Offset/Setup														
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Transport			}											
Unapproved	<u> </u>						<u> </u>						i	
				···			FAI	ULT CA	TEGORY					
Landi	ng (7				General		1]]	: Г	\neg	Duana
		Bending			<u> </u>	Bend	<u> </u>		Program	-	Outside Dim	-		Pressure/Forced
		Centre No	ot Concer	itric	-	BOM/Route	<u> </u>	Grain			Over/Under			Set-up Temperature/Cure
	_	Cracks			-	Broken/Damage/Defect	-	Hardwa			Part Incorred	-		Weld
	L	Crimp/Kir	nk/Ripple,	/Wave	<u> </u>	Burrs	\vdash	4 '	ion Incomplete/Un	· -	Part Lost/Mi Part Moved	ssing -	-	Wrong Stock Pulled
	_	Cuffs				Countamination	<u> </u>	4	tions Incomplete/U	Inclear –	Positioned V	L Vrong		Wiong Stock Falled
	<u> </u>	Crushing			-	Countersink	-	Mislabe	gned/off center	 	Power Loss/		\neg	Other
	_	Heat Trea		T la ~	\vdash	Cut Too Short	-	4		L	Trower ross/	Juige [_1	O G I C I
	<u> </u>	Inspectio		iupe	\vdash	Drawing Drill Holos		Misrea						
		Marks/Ch			-	Drill Holes	-	Off-set	Calibration			···		
	<u> </u>	Turning S		_	-	Finish	-	4						
I	l	wave/Iw	ist in Tub	e	ı	Fit/Function	1	lout of:	Sequence					

D3065-5DART AEROSPACE LTD	Work Order:	172308
Description: Step	Part Number:	D3463-3
Inspection Dwg: D3463 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article	Prototype

Drawing	Tolerance	Actual	Accept	Reject	Method of Inspection	Comments
Dimension		Dimension				
Ø0.191	+0.005/-0.001	0.193"			U	Thurs
7.00	+/-0.030	7.00			V	
5.00	+/-0.030	5.00"			V	
6.00	+/-0.030	4-00			V	
1.00	+/-0.030	1.00	_		V	
1.750	+/-0.010	1.750			ν	
0.750	+/-0.010	0.750			٧	
0.875	+/-0.010	0.875			J	
1.000	+/-0.010	1.003"	_		J	
0.500	+/-0.010	0.502			1	
	,					
	,					
1			JAS	<u>. </u>	<u> </u>	

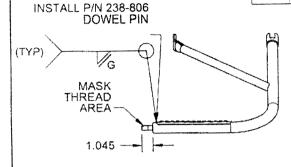
Measured by: Sva Audited by: 9-89 Prototype Approval: N/A

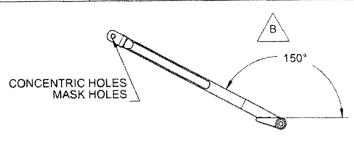
Date: 14-09-28 Date: 14-5-29 Date: N/A

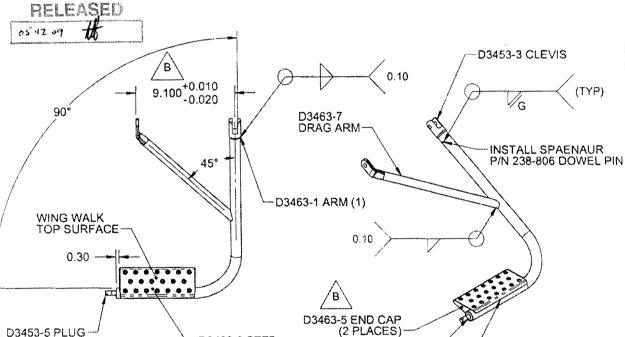
Rev	Date	Change	Revised by	Approved
Α	07.10.15	New Issue	KJ/EC/DD	



DES	ign RF	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHE	CKED JII	APPROVED	DRAWING NO.	REV. B
	#	M	D3463	SHEET 1 OF 4
DAT	E		ТІПЦЕ	SCALE
	05.12.05		STEP WELDMENT	1:8
Α	A 05.09.20		NEW ISSUE	
В	05.12.05		REVISE DIM.; D3463-5 WAS D3463-	5F







D3463-042 STEP WELDMENT ASSEMBLY D3463-041 OPPOSITE

D3463-3 STEP

NOTES:

- 1) WELD PER DART QSI 004
 2) FINISH: POWDER COAT WHITE (4.3.5.2) PER DART QSI 005 4.3
 BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) ALL DIMENSIONS ARE IN INCHES
 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010
 6) IDENTIFY WITH DART P/N USING FINE POINT PERMANENT INK MARKER

V/G

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UNCONTROLLED COP

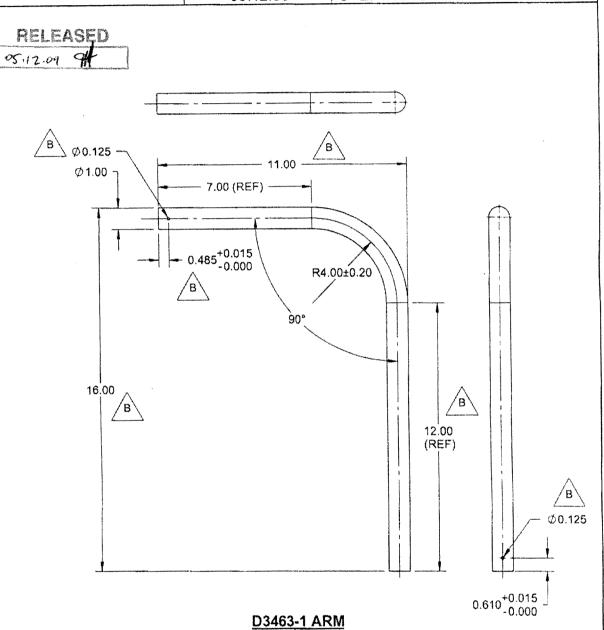
ENGINEERING

0.06

WITHOUT NOTICE



DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED #	DRAWING NO.	REV. B SHEET 2 OF 4
DATE 05.12.05		STEP WELDMENT	SCALE 1:4



NOTES:

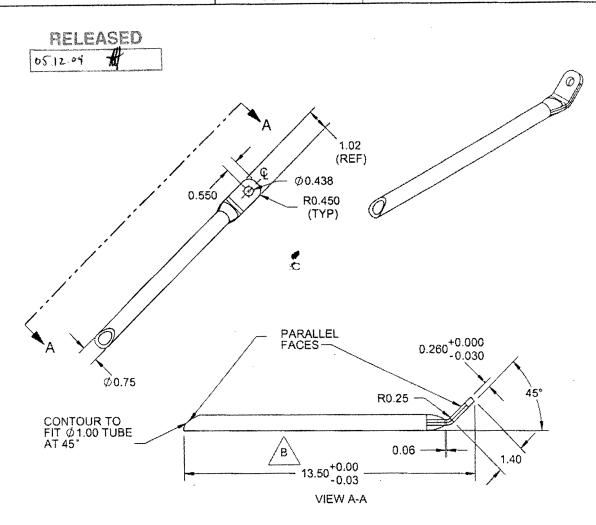
- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR1.000W.120) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.025

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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED #	DRAWING NO.	REV. B SHEET 3 OF 4
DATE 05.12.05		STEP WELDMENT	SCALE 1:4



D3463-7 DRAG ARM

NOTES:

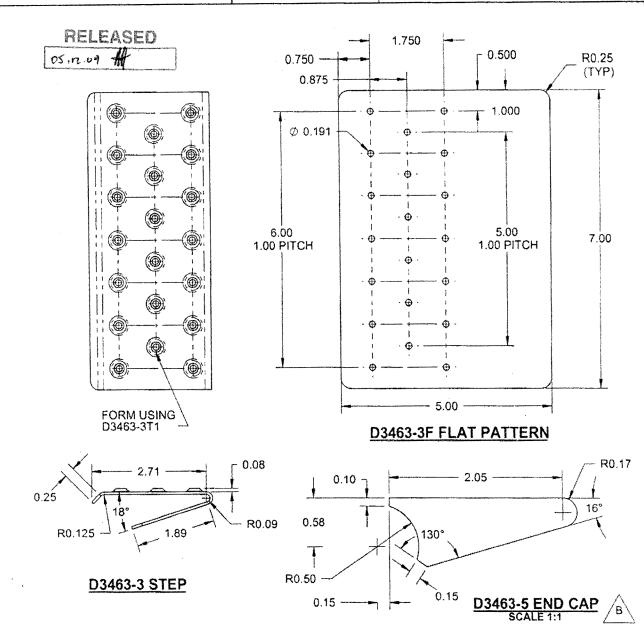
- 1) MATERIAL: AISI 316/304 SS SEAMLESS TUBING (REF. DART SPEC. M304TR0.750W.120) 2) FINISH: NONE 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED 4) ALL DIMENSIONS ARE IN INCHES 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3463	REV. B SHEET 4 OF 4
DATE 05.12.05		STEP WELDMENT	SCALE 1:2



NOTES:

٠٤ 👡

- 1) MATERIAL: AISI 304/316 SS SHEET, 0.060 THICK (REF. DART SPEC. M304S16GA)
- 2) FINISH: NONE
 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) ALL DIMENSIONS ARE IN INCHES
 5) BREAK ALL UNMARKED SHARP EDGES 0.005 TO 0.010

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